North Carolina Department of Health and Human Services
Division of Public Health • Epidemiology Section
Communicable Disease Branch

ATTENTION HEALTH CARE PROVIDERS:
Please report relevant clinical findings about this disease event to the local health department.

Spotted Fever Rickettsiosis
Confidential Communicable Disease Report—Part 2

REMINDER to Local Health Department staff: If sending this form to the Health Care Provider, remember to attach a cover letter from your agency indicating the part(s) of the form the provider should complete.

Patient's Last Name	First	Middle	Suffix	Maiden/Other	Alias	Birthdate *(mm/dd/yyyy)* / /
						SSN

NC EDSS LAB RESULTS Verify if lab results for this event are in NC EDSS. If not present, enter results.

Name of laboratory_____ City_____ State_____ ZIP_____

SEROLOGIC TESTS Indicate Y(es) or N(o) ONLY if the test was performed.	SEROLOGY 1 Collection Date (mm/dd/yyyy) _____ Specimen # _____ Titer/Result	Positive?	SEROLOGY 2 Collection Date (mm/dd/yyyy) _____ Specimen # _____ Titer/Result	Positive?
IFA-IgG	(_____)	☐Y ☐N	(_____)	☐Y ☐N
IFA-IgM	(_____)	☐Y ☐N	(_____)	☐Y ☐N
Other test:_____	(_____)	☐Y ☐N	(_____)	☐Y ☐N

Other Diagnostic Tests?	Positive?
PCR	☐Y ☐N
Immunostain	☐Y ☐N
Culture	☐Y ☐N

Comments/details:

NC EDSS PART 2 WIZARD COMMUNICABLE DISEASE

Is/was patient symptomatic for this disease? ☐Y ☐N ☐U
If yes, symptom onset date (mm/dd/yyyy): __/__/____
CHECK ALL THAT APPLY:
Fever ☐Y ☐N ☐U
Headache ☐Y ☐N ☐U
Muscle aches/pains (myalgias) ☐Y ☐N ☐U
Skin rash ☐Y ☐N ☐U
Thrombocytopenia ☐Y ☐N ☐U
Leukopenia ☐Y ☐N ☐U
Anemia ☐Y ☐N ☐U
Elevated liver enzymes ☐Y ☐N ☐U
NOTES:

CLINICAL FINDINGS

Acute respiratory distress syndrome (ARDS) ☐Y ☐N ☐U
Acute renal failure ☐Y ☐N ☐U
Disseminated intravascular coagulation ☐Y ☐N ☐U
Specify _____

Other symptoms, signs, clinical findings, or complications consistent with this illness ☐Y ☐N ☐U
Specify:

PREDISPOSING CONDITIONS

Any immunosuppressive conditions ☐Y ☐N ☐U
Please specify:

CLINICAL OUTCOMES

Discharge/Final diagnosis: _____
_____
Survived? ☐Y ☐N ☐U
Died? ☐Y ☐N ☐U
Died from this illness? ☐Y ☐N ☐U
Date of death (mm/dd/yyyy):_____/_____/_____

HOSPITALIZATION INFORMATION

Was patient hospitalized for this illness >24 hours? ☐Y ☐N ☐U
Hospital name: _____
City, State:_____
Hospital contact name: _____
Telephone: (_____) _____ - _____
Admit date (mm/dd/yyyy): ____/____/____
Discharge date (mm/dd/yyyy):____/____/____

Patient's Last Name	First	Middle	Suffix	Maiden/Other	Alias	Birthdate *(mm/dd/yyyy)* / /
						SSN

TREATMENT

Did patient take an antibiotic as treatment for this illness? ☐ Y ☐ N ☐ U

If yes:

Check all antibiotics that apply:

☐ Doxycycline ☐ Chloramphenicol

☐ Unknown

☐ Other (specify)_____

Date antibiotic began (mm/dd/yyyy)

_____

If no:

Did patient refuse treatment? ☐ Y ☐ N ☐ U

Comments/details:

VECTOR EXPOSURES

During the 14 days prior to onset of symptoms, did the patient have an opportunity for exposure to ticks? ☐ Y ☐ N ☐ U

Exposed on (mm/dd/yyyy): ____/____/____

Until (mm/dd/yyyy): ____/____/____

Frequency

☐ Once

☐ Multiple times within this time period

☐ Daily

Exposure setting _____

City/county of exposure_____

State of exposure _____

Country of exposure _____

Was the tick embedded? ☐ Y ☐ N ☐ U

How long?_____

☐ Hours

☐ Days

☐ Unknown

Notes:

VACCINE

Has patient/contact ever received any other vaccine or immune globulin related to this disease? ☐ Y ☐ N ☐ U

Vaccine type:_____

Date of administration (mm/dd/yyyy): _____

Source of this vaccine information:_____

TRAVEL/IMMIGRATION

The patient is:

☐ Resident NC

☐ Resident of another state or US territory

☐ None of the above

Did patient have a travel history during the 14 days prior to onset? ☐ Y ☐ N ☐ U

List travel dates and destinations _____

_____

_____

Additional travel/residency information:

CASE INTERVIEWS/INVESTIGATIONS

Was the patient interviewed? ☐ Y ☐ N ☐ U

Date of interview (mm/dd/yyyy): ____/____/____

Medical records reviewed (including telephone review with provider/office staff)? ☐ Y ☐ N ☐ U

Specify reason if medical records were not reviewed:

Notes on medical record verification:

GEOGRAPHICAL SITE OF EXPOSURE

In what geographic location was the patient MOST LIKELY exposed?

Specify location:

☐ In NC

City _____

County_____

☐ Outside NC, but within US

City _____

State _____

County_____

☐ Outside US

City _____

Country _____

☐ Unknown

Is the patient part of an outbreak of this disease? ☐ Y ☐ N

Notes:

Spotted Fever Rickettsiosis

2010 Case Definition

CSTE Position Statement Number: 09-ID-16

Clinical description

Spotted fever rickettsioses are a group of tickborne infections caused by some members of the genus *Rickettsia*. Rocky Mountain spotted fever (RMSF) is an illness caused by *Rickettsia rickettsii*, a bacterial pathogen transmitted to humans through contact with ticks. *Dermacentor* species of ticks are most commonly associated with infection, including *Dermacentor variabilis* (the American dog tick), *Dermacentor andersoni* (the Rocky Mountain wood tick), and more recently *Rhiphicephalus sanguineus* (the brown dog tick). Disease onset averages one week following a tick bite. Age-specific illness is highest for children and older adults. Illness is characterized by acute onset of fever, and may be accompanied by headache, malaise, myalgia, nausea/vomiting, or neurologic signs; a macular or maculopapular rash appears 4-7 days following onset in many (~80%) patients, often present on the palms and soles. RMSF may be fatal in as many as 20% of untreated cases, and severe, fulminant disease can occur. In addition to RMSF, human illness associated with other spotted fever group *Rickettsia* species, including infection with *Rickettsia parkeri* (associated with *Amblyomma maculatum* ticks), has also been reported. In these patients, clinical presentation appears similar to, but may be milder than, RMSF; the presence of an eschar at the site of tick attachment has been reported for some other spotted fever rickettsioses.

Clinical evidence

Any reported fever and one or more of the following: rash, eschar, headache, myalgia, anemia, thrombocytopenia, or any hepatic transaminase elevation.

Laboratory criteria for diagnosis

The organism in the acute phase of illness is best detected by polymerase chain reaction (PCR) and immunohistochemical methods (IHC) in skin biopsy specimens, and occasionally by PCR in appropriate whole blood specimens taken during the first week of illness, prior to antibiotic treatment. Serology can also be employed for detection, however an antibody response may not be detectable in initial samples, and paired acute and convalescent samples are essential for confirmation.

For the purposes of surveillance:

Laboratory confirmed:

- Serological evidence of a fourfold change in immunoglobulin G (IgG)-specific antibody titer reactive with *Rickettsia rickettsii* or other spotted fever group antigen by indirect immunofluorescence assay (IFA) between paired serum specimens (one taken in the first week of illness and a second 2-4 weeks later), or
- Detection of *R. rickettsii* or other spotted fever group DNA in a clinical specimen via amplification of a specific target by PCR assay, or
- Demonstration of spotted fever group antigen in a biopsy or autopsy specimen by IHC, or
- Isolation of *R. rickettsii* or other spotted fever group rickettsia from a clinical specimen in cell culture.

Laboratory supportive:

- Has serologic evidence of elevated IgG or IgM antibody reactive with *R. rickettsii* or other spotted fever group antigen by IFA, enzyme-linked immunosorbent assay (ELISA), dot-ELISA, or latex agglutination.

Note: Current commercially available ELISA tests are not quantitative, cannot be used to evaluate changes in antibody titer, and hence are not useful for serological confirmation. IgM tests are not strongly supported for use in serodiagnosis of acute disease, as the response may not be specific for the agent (resulting in false positives) and the IgM response may be persistent. Complement fixation (CF) tests and other older test methods are neither readily available nor commonly used. CDC uses in-house IFA IgG testing (cutoff of ≥1:64), preferring simultaneous testing of paired specimens, and does not use IgM results for routine diagnostic testing.

Exposure

Exposure is defined as having been in potential tick habitats within the past 14 days before onset of symptoms. Occupation should be recorded if symptoms. Occupation should be recorded if relevant to exposure. A history of a tick bite is not required.

Case Classification

Suspected: A case with laboratory evidence of past or present infection but no clinical information available (e.g., a laboratory report).

Probable: A clinically compatible case (meets clinical evidence criteria) that has supportive laboratory results.

Confirmed: A clinically compatible case (meets clinical evidence criteria) that is laboratory confirmed.